

SUN CONEC
-Singapore & Malaysia-

Zirconiaceramic ferrule



Make Connections Much Simpler

CONTENTS

Content	Page
Standard SC/UPC and SC/APC	pg.01
Standard SC/APC(STEP),SC ferrule flange	pg.02
Standard LC and MU	pg.03
LC ferrule flange	pg.04
Premium ferrule series	pg.05
Customized ferrule	pg.06
Zirconia sleeves	pg.07

SC/UPC ZIRCONIA FERRULE

SPECIFICATION

DESCRIPTION	SM	MM
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0005$	$\Phi 2.499 \pm 0.0010$
Concentricity(mm)	≤ 0.0010	≤ 0.0040
Ferrule Length(mm)	10.5 ± 0.05	

CODE STANDARDS

SP-5363-05-FP

TYPE	ID Range(μm)	Concentricity	Flange
SP SC/PC	5055 125.0-125.5	03 0.3 μm	FP SC/PC Flange
	5257 125.2-125.7	05 0.5 μm	☒ Without Flange
	5363 125.3-126.3	10 1.0 μm	
	5565 125.5-126.5	14 1.4 μm	
	6070 126.0-127.0	40 4.0 μm	
	6090 126.0-129.0		

Note: Customized flange slot width and length are available upon request.

Performance:

- The product complies with RoHS requirements.
- Salt mist resistance: $48\text{h} \leq \text{test duration} \leq 168\text{h}$ (IEC 61300-2-26)
- Ferrule hardness: $> 1200\text{HV}$
- Ferrule density $\geq 6.0 \text{ g/cm}^3$
- Ferrule bending strength: $> 1200 \text{ MPa}$
- Ferrule-to-tailstock retention $> 7\text{kgf}$
- The ferrule passed the $85^\circ\text{C}/85\% \text{ RH}$ test for 2000 hours
- The ferrule passed the aging test at 140°C for 24 hours

SC/UPC Ferrule With Flange



SC/UPC Ferrule



SC/APC ZIRCONIA FERRULE

SPECIFICATION

DESCRIPTION	SM	MM
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0005$	$\Phi 2.499 \pm 0.0010$
Concentricity(mm)	≤ 0.0010	≤ 0.0040
Ferrule Length(mm)	10.5 ± 0.05	
Bevel angle degree($^\circ$)	$30^\circ/35^\circ/45^\circ$	

CODE STANDARDS

SA-5363-05-FA

TYPE	ID Range(μm)	Concentricity	Flange
SA SC/APC	5055 125.0-125.5	03 0.3 μm	FA SC/APC Flange
	5257 125.2-125.7	05 0.5 μm	☒ Without Flange
	5363 125.3-126.3	10 1.0 μm	
	5565 125.5-126.5	14 1.4 μm	
	6070 126.0-127.0	40 4.0 μm	
	6090 126.0-129.0		

Note: Customized flange slot width and length are available upon request.

Performance:

- The product complies with RoHS requirements.
- Salt mist resistance: $48\text{h} \leq \text{test duration} \leq 168\text{h}$ (IEC 61300-2-26)
- Ferrule hardness: $> 1200\text{HV}$
- Ferrule density $\geq 6.0 \text{ g/cm}^3$
- Ferrule bending strength: $> 1200 \text{ MPa}$
- Ferrule-to-tailstock retention $> 7\text{kgf}$
- The ferrule passed the $85^\circ\text{C}/85\% \text{ RH}$ test for 2000 hours
- The ferrule passed the aging test at 140°C for 24 hours

SC/APC Ferrule With Flange



SC/APC Ferrule



SC/APC (STEP) ZIRCONIA FERRULE

SPECIFICATION

DESCRIPTION	SM	MM
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0005$	$\Phi 2.499 \pm 0.0010$
Concentricity(mm)	≤ 0.0010	≤ 0.00040
Ferrule Length(mm)	10.5 ± 0.05	

CODE STANDARDS

ST-5363-05-FA

SC/STEP Ferrule With Flange

TYPE	ID Range(μm)	Concentricity	Flange
ST SC/APC (STEP)	5055 125.0-125.5	03 0.3 μm	FA SC/APC Flange
	5257 125.2-125.7	05 0.5 μm	☒ Without Flange
	5363 125.3-126.3	10 1.0 μm	
	5565 125.5-126.5	14 1.4 μm	
	6070 126.0-127.0	40 4.0 μm	
	6090 126.0-129.0		

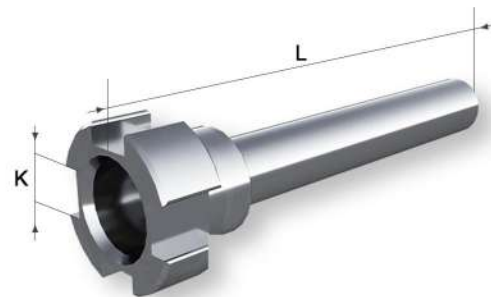
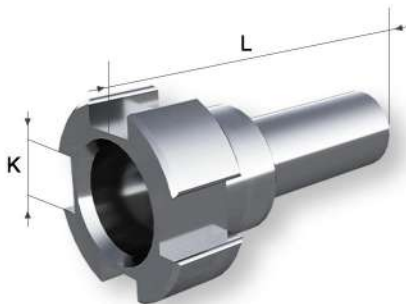
Note: Customized flange slot width and length are available upon request.

Performance:

- The product complies with RoHS requirements.
- Salt mist resistance: $48\text{h} \leq \text{test duration} \leq 168\text{h}$ (IEC 61300-2-26)
- Ferrule hardness: $> 1200\text{HV}$
- Ferrule density $\geq 6.0\text{ g/cm}^3$
- Ferrule bending strength: $> 1200\text{ MPa}$
- Ferrule-to-tailstock retention $> 7\text{kgf}$
- The ferrule passed the $85^\circ\text{C}/85\%\text{ RH}$ test for 2000 hours
- The ferrule passed the aging test at 140°C for 24 hours

SC/APC (STEP) Ferrule

SC FERRULE FLANGE



L=Length Parameter K=Aperture Parameter

SC Flange Dimensional Specifications

K	L	8.05 (mm)	15.4 (mm)
$1.27^{+0.05}_0$ (mm)		FS	FSL
$1.30^{+0.05}_0$ (mm)		FN	FNL
1.35 ± 0.05 (mm)		FA	FAL
$1.50^{+0.1}_0$ (mm)		FP	FPL

Notes:

- The Flange length and slot width can be customized according to customer requirements.
- The Flange material can be selected as nickel-plated Copper or SUS303Cu.
- Salt mist resistance: $48\text{h} \leq \text{test duration} \leq 168\text{h}$ (IEC 61300-2-26).

LC ZIRCONIA FERRULE

SPECIFICATION

DESCRIPTION	SM	MM
Material	Zirconia	
Outer Diameter(mm)	$\Phi 1.249 \pm 0.0005$	
Concentricity(mm)	≤ 0.0010	≤ 0.0040
Ferrule Length(mm)	$6.4^{+0.1}_0$	

CODE STANDARDS

LC-5363-03-FL

TYPE	ID Range(μm)	Concentricity	Flange
LC LC Ferrule	5055 125.0-125.5	03 0.3 μm	FL LC Ferrule With Flange
	5257 125.2-125.7	05 0.5 μm	FLK LC Ferrule With Slotted Flange
	5363 125.3-126.3	10 1.0 μm	☒ Without Flange
	5565 125.5-126.5	14 1.4 μm	
	6070 126.0-127.0	40 4.0 μm	
	6090 126.0-129.0		

Note: Customized flange slot width and length are available upon request.

Performance:

- The product complies with RoHS requirements.
- Salt mist resistance: 48h $\leq$ test duration $\leq$ 168h (IEC 61300-2-26)
- Ferrule hardness: $> 1200\text{HV}$
- Ferrule density $\geq 6.0 \text{ g/cm}^3$
- Ferrule bending strength: $> 1200 \text{ MPa}$
- Ferrule-to-tailstock retention $> 5\text{kgf}$
- The ferrule passed the 85°C/85% RH test for 2000 hours
- The ferrule passed the aging test at 140°C for 24 hours

LC Ferrule With Flange

LC Ferrule With Slotted Flange

LC Ferrule

MU ZIRCONIA FERRULE

SPECIFICATION

DESCRIPTION	SM	MM
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0005$	$\Phi 2.499 \pm 0.001$
Concentricity(mm)	≤ 0.0010	≤ 0.0040
Ferrule Length(mm)	$6.4^{+0.1}_0$	

CODE STANDARDS

MU-5363-05-FM

TYPE	ID Range(μm)	Concentricity	Flange
MU MU Ferrule	5055 125.0-125.5	03 0.3 μm	FM MU Ferrule With Flange
	5257 125.2-125.7	05 0.5 μm	FML MU Ferrule With Slotted Flange
	5363 125.3-126.3	10 1.0 μm	
	5565 125.5-126.5	14 1.4 μm	
	6070 126.0-127.0	40 4.0 μm	
	6090 126.0-129.0		

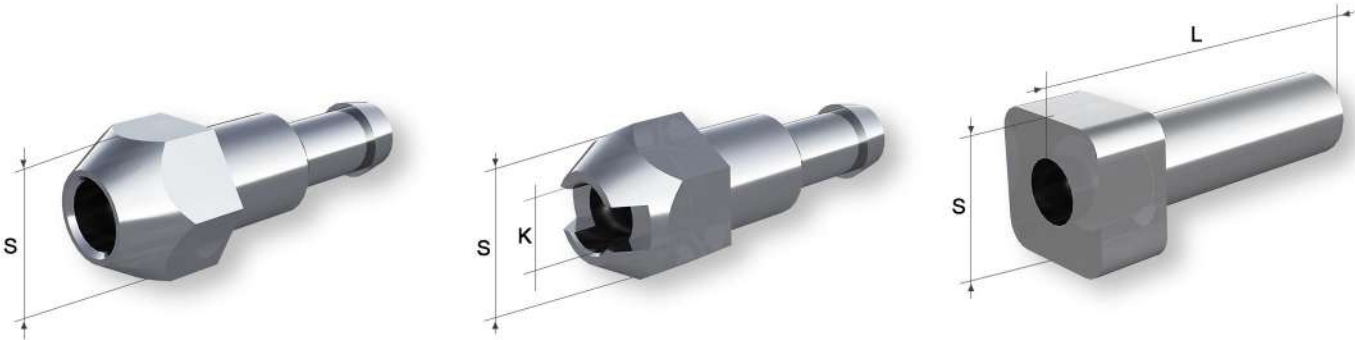
Note: Customized flange slot width and length are available upon request.

Performance:

- The product complies with RoHS requirements.
- Salt mist resistance: 48h $\leq$ test duration $\leq$ 168h (IEC 61300-2-26)
- Ferrule hardness: $> 1200\text{HV}$
- Ferrule density $\geq 6.0 \text{ g/cm}^3$
- Ferrule bending strength: $> 1200 \text{ MPa}$
- Ferrule-to-tailstock retention $> 5\text{kgf}$
- The ferrule passed the 85°C/85% RH test for 2000 hours
- The ferrule passed the aging test at 140°C for 24 hours

MU Ferrule With Flange

LC FERRULE FLANGE



L=Length Parameter S=Flat-to-flat dimension

LC Flange Dimensional Specifications

S \ K	Non-Slotted	Slotted (K=0.79mm)
2.54±0.05 (mm)	FL	FLK
2.65±0.05 (mm)	FW	FWK

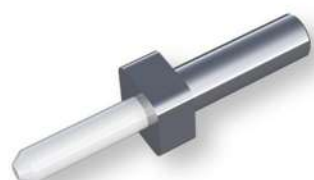
MU Flange Dimensional Specifications

S \ L	5.5mm	7mm
2.78 ^{+0.1} _{0.05} (mm)	FM	FML
2.6 ^{+0.1} _{0.05} (mm)	FU	FUL

Notes:

- 1、 The tail handle length and slot width can be customized according to customer requirements.
- 2、 The tail handle material can be selected as nickel-plated Copper or SUS303Cu.
- 3、 Salt mist resistance: 48h ≤ test duration ≤ 168h(IEC 61300-2-26).

PREMIUM



Performance:

- Attenuation grade of GradeB (untuned): $\leq 0.12\text{dB}$ mean, $\leq 0.25\text{dB}$ max, for $\geq 97\%$ of the connections.

SPECIFICATION

DESCRIPTION	SC	LC
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0003$	$\Phi 1.249 \pm 0.0003$
Concentricity(mm)	≤ 0.0005	
Ferrule Length(mm)	10.5 ± 0.05	$6.4^{+0.1}_0$

Note: 1. The premium ferrule maintains $\leq 0.3\mu\text{m}$ concentricity for $200\mu\text{m}$ fiber cores, achieving ultra-precision alignment standards.
 2. Grade B is defined in IEC 61753-1.

SUPER PREMIUM

Performance:

- Attenuation grade of GradeB : $\leq 0.07\text{dB}$ mean, $\leq 0.15\text{dB}$ max, for $\geq 97\%$ of the connections.

SPECIFICATION

DESCRIPTION	SC	LC
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0002$	$\Phi 1.249 \pm 0.0002$
Concentricity(mm)	≤ 0.0003	
Ferrule Length(mm)	10.5 ± 0.05	$6.4^{+0.1}_0$

Note: 1. The super premium ferrule maintains $\leq 0.3\mu\text{m}$ concentricity for $200\mu\text{m}$ fiber cores, achieving ultra-precision alignment standards.
 2. GradeA* is not defined in IEC standards.

ULTRA PREMIUM

Performance:

- Attenuation grade of GradeB : $\leq 0.05\text{dB}$ mean, $\leq 0.10\text{dB}$ max, for $\geq 97\%$ of the connections.

SPECIFICATION

DESCRIPTION	SC	LC
Material	Zirconia	
Outer Diameter(mm)	$\Phi 2.499 \pm 0.0002$	$\Phi 1.249 \pm 0.0002$
Concentricity(mm)	≤ 0.00015	
Ferrule Length(mm)	10.5 ± 0.05	$6.4^{+0.1}_0$

Note: 1. The ultra premium ferrule maintains $\leq 0.15\mu\text{m}$ concentricity for $200\mu\text{m}$ fiber cores, achieving ultra-precision alignment standards.
 2. GradeA*+ is not defined in IEC standards.

CUSTOMIZED FERRULE



Concentricity at both ends



Special APC chamfer (45°)



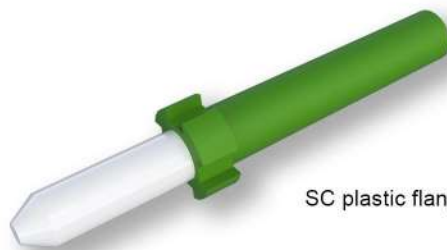
Slotted ferrule



SC ferrule with special length



ST special flange



SC plastic flange



Grooved ferrule



LC ferrule with special length



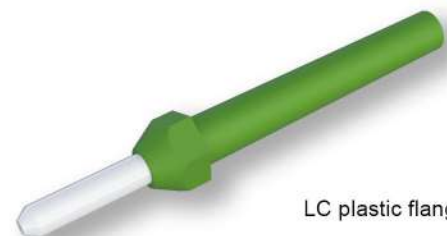
Black LC Ferrule



LC special flange



MU special flange



LC plastic flange

Outer diameter

0.18mm--3.0mm

Inner diameter

80μm--500μm

Concentricity

minimum 0.15μm

Slotting

a variety of customized sizes

Chamfering

a variety of customized sizes

Length

2.0mm—13mm

Note: Inner diameter tolerance: $\pm 0.5\mu\text{m}$ (default), customizable based on customer's fiber outer diameter.



Aerospace



Medical



Data Center



FTTX systems



Test Equipment

ZIRCONIA SLEEVES

SPECIFICATION

DESCRIPTION	ST	SC,FC	LC,MU
Material	Zirconia		
Withdrawal Force (gf)	200-600		100-250
Insertion Loss	Max 0.5dB, 0.1dB typical or better		
Durability	<0.02dB deviation after 1000 matings & temp cycling		
Outer Diameter (mm)	3.2±0.02		1.62±0.01
Inner Diameter (mm)	(2.49)		(1.246)
Length (mm)	10.1±0.1	11.4±0.1	6.8 ⁰ _{-0.1}
Slit Width (mm)	Max 0.5 ± 0.01		Max 0.2 ± 0.01
Chamfer	2 x R0.1		

Note: For Zirconia Sleeves ST, SC, FC, LC and MU.

Performance:

- Zirconia sleeves and tubes are precision manufactured according to strict quality and performance standards. They are available for singlemode and multimode applications. Reliable mating is assured with strictly controlled dimensions and withdrawal force. Standard styles for FC include SC, FC, ST, D4, LC and MU, with custom designs also available. Diagonal split sleeves are available for superior durability requirements. Tubes are also available.

CODE STANDARDS

ZRS-25-101

SLEEVE CODE	INNER DIAMETER	LENGTH
ZRS Straight Split Sleeve	25 (2.49)mm	101 10.1mm ST
		114 11.4mm SC & FC

- Note:** 1. Outer diameter and inner diameter dimensions are for reference only and should be adjusted to the required withdrawal force as specified.
 2. Custom configurations and dimensions are available upon request.

ZRS-12-680

SLEEVE CODE	INNER DIAMETER	LENGTH
ZRS Straight Split Sleeve	12 (1.25)mm	680 6.8mm for LC/MU

- Note:** 1. Outer diameter and inner diameter dimensions are for reference only and should be adjusted to the required withdrawal force as specified.
 2. Custom configurations and dimensions are available upon request.

For SC and FC Adapters Straight Split

For LC and MU Adapters Straight Split